



Zivo Smart Terminal™

User Manual

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JAotech Ltd

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Revisions & Amendment Record

Issue No.	Date	Section	Reason
A	July 20, 2010		First draft
B	Feb 18, 2011		<ul style="list-style-type: none"> Remove Core Duo and 945GME specifications Remove COM1 spec. Remove IR spec. Remove Sonitor spec.
01	Oct. 09, 2012	<p>p.5</p> <p>p.10</p> <p>p.10</p> <p>p.11</p> <p>P.11</p> <p>p.14</p> <p>p.19</p> <p>p.20</p> <p>p.20</p> <p>p.21</p> <p>p.32</p> <p>p.35</p> <p>p.40</p>	<p>Remove Life Support Policy</p> <p>Modify Classification to Technology Equipment only Remove information of Medical Electrical Equipment</p> <p>Remove descriptions regarding IEC704-1:1982</p> <p>Add note</p> <p>Remove note Add icon and description for RJ11 socket of handset</p> <p>Change Power Input from 3A to 4.74A</p> <p>Figure 2.3: Rear view of the Zivo Smart Terminal</p> <p>Figure 2.4: I/O Ports of the Zivo Smart Terminal (up)</p> <p>Remove Figure 2.4, point 1. Modify point 6. to 8P8C+Fin Service Call Connector Modify Nurse Call Device of 26-Way MDR Connector to Service Call Device</p> <p>Figure 2.5: Connecting the power cord</p> <p>Modify Pin name from NURSEX to SERVICEX</p> <p>Modify Nurse call connector (JNURx) to Service call connector (JNURx) Modify Pin name from NURSEX to SERVICEX.</p> <p>Add Appendix E: Desk Stand</p>

Introduction

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- Creative is a trademark of Creative Technology LTD.
- All other product names or trademarks are properties of their respective owners.
- This manual is for the Zivo Smart Terminal™.

FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice:

- (1) An unshielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.**
- (2) Use only shielded cables to connect I/O devices to this equipment.**
- (3) Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

JAOTECH customer services

Each and every JAOTECH product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Zivo Smart Terminal™ is destined for the laboratory or the hospital ward, you can be assured that your product will provide the reliability and ease of operation for which the name JAOTECH has come to be known.

Your satisfaction is our primary concern. Here is a guide to JAOTECH's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can find answers in your product documentation. These answers are normally more detailed than the ones we can give over the phone. So please consult the user manual first.

If you still cannot find the answer, gather all the information or questions that apply to your problem and with the product close at hand, call your local JAOTECH office, or e-mail us. We are ready to give you the support you need to get the most from your products. In fact, most problems reported are minor and are able to be easily resolved over the phone.

Product warranty

JAOTECH Ltd. warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorised by JAOTECH, or which have been subject to misuse, abuse, accident or improper installation. JAOTECH assumes no liability under the terms of this warranty as a consequence of such events. Because of JAOTECH's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If any of JAOTECH's products is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your local JAOTECH office or reseller for more details. If you think you have a defective product, follow these steps:

1. Visit the JAOTECH website at **www.jaotech.com** where you can find the latest information about the product.
2. Contact your JAOTECH reseller, sales representative, or JAOTECH's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Note: This equipment is a source of electromagnetic waves. Before use please, make sure that there are no EMI sensitive devices nearby which may malfunction.

Warning

1. *Input voltage rated 100-240 VAC, 50-60 Hz, 4-2 A (AC Mode)*
2. *Use a 3 V @ 195 mA lithium battery*
3. *Packing: please carry the unit with both hands, handle with care*
4. *Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with dry applicator. In environments where specific chemicals or cleaning agents are required to be used, please contact JAOTECH*

Selon les demieres RSS-210 et CNR-GEN

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisee aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.*

Safety instructions

1. Read these safety instructions carefully.
2. Keep this user manual for later reference.
3. Keep this equipment away from humidity.
4. Place the terminal on a stable surface or hang from a reliable structure during installation. Dropping the equipment is likely to cause damage.
5. The vents on the enclosure are for air convection and protect the equipment from overheating. **DO NOT COVER THE VENTS.**
6. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
7. Position the power cord so that it is not a hazard. Do not place anything over the power cord.
8. Please take note of all the cautions and warnings on the equipment.
9. The Smart terminals should be cleaned regularly according to usage. Standard computer monitor cleaning methods and wipes are suitable for this purpose. In environments where specific chemicals or cleaning agents are used, please contact your local JAOTECH office.
10. If the equipment is out of use for an extended period, make sure to disconnect it from the power source to avoid damage in the event of a power surge.
11. Do not pour any liquid into the vents on the terminal. This may cause fire or electrical shock.
12. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
13. If one of the following situations arises, ensure you get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. The equipment has been exposed to moisture.
 - c. The equipment is not functioning properly, or you cannot get it to work according to the user manual.
 - d. The equipment has been dropped and damaged.
 - e. The equipment has obvious signs of breakage.
14. **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20 °C (-4 °F) OR ABOVE 60 °C (140 °F). THIS MAY DAMAGE THE EQUIPMENT.**
15. If your computer is losing time or the BIOS configuration resets to default settings, the battery has no power.

Caution: Do not replace the battery yourself. Please contact a qualified technician or your supplier of the Zivo Smart Terminal™. The Zivo Smart Terminal™ is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

16. **IMPROPER INSTALLATION OF VESA MOUNTING CAN RESULT IN SERIOUS PERSONAL INJURY!** VESA mount installation should be carried out by a professional technician. Please contact the service technician or your reseller if you need this service.
17. CLASSIFICATION:
According to UL60950 (Technology Equipment) if JAOtech's terminals are used in combination with a standard Class II 2 or 3 pin power adapter this system can be classified as a **Class III electrical appliance**.
18. To disconnect the device: Remove the rear power supply power connection.
19. Follow national requirements when disposing of the unit.
20. This equipment shall not be used in life support systems.
21. Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) If in doubt, consult the technical services department or your local representative.
22. The user is not to touch SIP/SOPs and the patient at the same time.



Non-ionizing radiation

Packing list

Before installing your Zivo Smart Terminal™, ensure that the following parts have been received in the box:

- Zivo Smart Terminal™
- User manual
- PSU & Power cord - USA, European, UK types (where applicable)
- Handset & Coiled Cable (where applicable)
- Accessories for Zivo Smart Terminal™ (where applicable)

Warning: To prevent electric shock, DO NOT remove covers. No user serviceable parts inside, refer servicing to qualified personnel.

Note: This RJ11 socket is for handset connection only.



CHAPTER

1**General information**

This chapter gives an overview of the Zivo Smart Terminal™, sections include:

- Introduction
- Specifications
- Cleaning/Disinfecting
- LCD Specifications
- Dimensions

1.1 Introduction

The Zivo is a multimedia Intel® Atom processor-based computer that is designed to serve as a Point of Care (POC) and Point of Information terminal (POI) within healthcare applications. It is a PC based system with 15" color TFT LCD display, Gigabit Ethernet, multi-COM port and USB 2.0 interfaces and High Definition Audio codec.

The Zivo Smart Terminal™ is as compact and user-friendly as a notebook computer. This simple, complete and highly integrated multimedia system lets system integrators easily build the Zivo Smart Terminal™ into their applications.

1.2 Specifications

1.2.1 General

Display screen

Type	15" SXGA TFT (1024 x 768 resolution)
Colour depth	16.2 M
Response time	5ms
Dot size	0.3 x 0.3
Viewing angle	170/160° Hor./Vert.
Luminance	300 cd/m ² Typ
Contrast ratio	1000:1 Typ
LCD MTBF	50,000 Hrs Typ

Touch screen

Touch screen	Resistive 5-Wire
Software driver	Linux/Windows
Durability (touches in a lifetime)	35 million finger touches/10 million pen touches
Light transmission	82%
Touch controller	Internal USB

Environment

Temperature	0 ~ 40°C
Relative humidity	10 ~ 40°C / 20 ~ 90% RH
Storage temperature	-40°C ~ 60°C / 20
Storage relative humidity	10 ~ 80% RH
Atmospheric pressure range	500 to 1060hPa
Shock	30G, Half Sine, 11msec
Vibration	5 ~ 500Hz 1G acceleration non operating
Power MTBF	100,000 hrs
Altitudes	Operational: 6,000 ft; shipping: 40,000 ft

Peripherals and device interfaces

Headphone socket	2 x 3.5mm jack socket in connector recess
Microphone socket	1 x 3.5mm jack socket in connector recess
Phone handset	RJ11 socket
RJ11 socket	Mounted on phone cradle
User controls	Front membrane /capacitive buttons and 1 mechanical switch
USB ports	2 x USB2.0 sockets in connector recess, 2 x on rear I/O

Peripherals	Multifunction connector with USB, serial, audio and power
Visual call indication	Call indication visible from LED array on front and back of terminal
Reset switch	Internal push button behind the RAM door
Power switch	Internal push button behind the RAM door
Display inverter	Power enable and brightness control

Computing platform

CPU	Intel ® Atom based Processor
Northbridge	Intel ® 945GSE chipset
Southbridge	Intel ® I/O controller hub 7 mobile (ICH7M)
I/O companion	Winbond W83627EHG or similar
System memory	200-pin DDRII 667/533/400 SODIMM socket
3D graphics	Intel ® 945GSE integrated extreme graphics controller
Video memory	Intel DVMT 3.0 Supports up to 224MB shared video memory
Audio	Realtek ALC888 High Definition Audio Codec
Storage	1 x 2.5" SATA disk connector with power, 1 x SATA data connector, 1 x compact flash socket
Serial ports	6 x RS232
USB	4 x External, 1 x internal A-type socket, 3 x internal headers, 1 x external multi-signal connector
GPIO	Keypad, hook sensor, buzzer, indicator lights, audio input/output controls, internal headers
Thermal protection	Internal sensors generate interrupt
Watchdog	Programmable up to 255 seconds
LAN	Marvell 88E8053 or Intel 82574L (945GSE only)
Power input	19V DC, 4.74A

Audio

Amplifier	1.2W RMS headphone output per channel Bass boost 20dB at 50Hz 2 off 6 Watt peak RMS integral speakers Software speaker / headphone mute Independent control of all audio channels via internal mixer
Call buzzer	Incoming telephone call indication Software mute Piezo ringer

Telephone sub system

Dialing	On screen by software
Call indicator	Software controlled piezo ringer and call indicator lights

Peripheral devices

Hard drive	Up to 160GB HDD
Compact flash	Slave on secondary IDE port

Operating system

Primary	Linux, Windows
---------	----------------

Mechanical specifications

Plastic materials	PC/ABS: IDES C6200 UL94-V0 + Anti bacteria
	PC: GE 945A UL94-V0 + Anti bacteria
Mounting	Rear fixture VESA 75mm x M6
IP rating	IP64 Front Face, IP52 Rear
Dimensions	384 x 354 x 70 (mm) (Without handset)
Weight	4 kg
Power consumption	50 Watts
Cooling	Fanless design, rear heat sink and heat pipe dissipating up to 40W

1.2.2 Handset specifications

Handset

Keypad	None, keypad mapped on display
Cable Type	Retractable handset coiled cable
Interface	RJ11 connection

Audio sub system

Amplifier	Integrated on motherboard
Disability features	Inductive loop pickup for hearing aids Adjustable volume via software

Mechanical specifications

Mounting	Hook and cradle located on side of terminal
Dimensions	52 w x 64 d x 205 h (mm)
Weight	400g

1.2.3 Camera specifications

Camera

Resolution	1.3 Megapixel (1280 x 1024)
Focus	Fixed 60cm - infinity
Frame rate	640x480 @ 30fps; 1280x1024 @ 8fps

1.2.4 Other optional peripherals

For other optional peripherals please contact JAOTECH Ltd. for more information.

1.3 Cleaning

During normal use the Zivo will become soiled and should be regularly cleaned.

Examples of approved cleaning agents:

- Green tintured soap and Enzymatic detergents
- Mediwipes
- Vernacare wipes

1. Prepare agent per manufacturer's instructions or hospital protocol.
2. Wipe the Zivo with a clean cloth that has been moistened in the cleaning solution.
3. Wipe thoroughly with a clean cloth.

The Zivo Smart Terminal's surfaces are resistant to the following cleaning materials:

- Isopropyl alcohol
- Ammonia-based glass cleaners
- Turpentine
- Mineral spirits

Cautions:

Do not immerse or rinse the Zivo and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation. Do not spray cleaning agent on the chassis.

Do not use disinfectants that contain phenol. Do not autoclave or clean the Zivo Smart Terminal™ or its peripherals with strong aromatic, chlorinated, ketone, ether, or ester solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

In environments where specific chemicals or cleaning agents are required to be used, please contact JAOTECH.

1.4 Dimensions

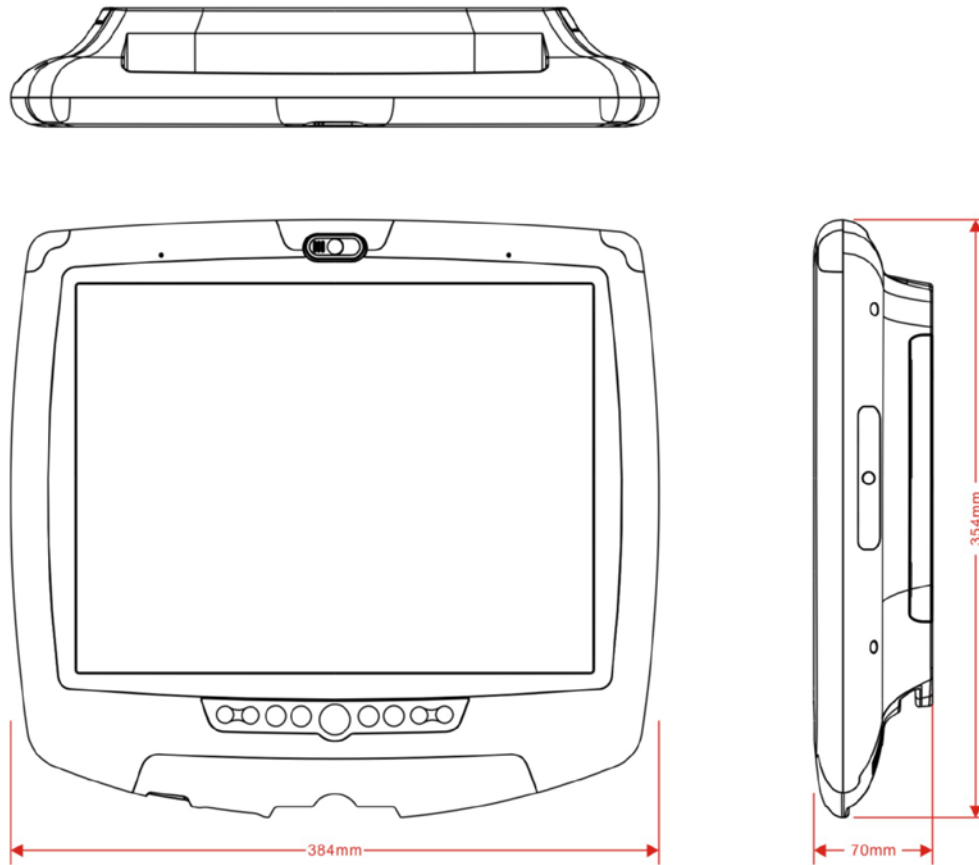


Figure 1.1: Dimensions of the Zivo Smart Terminal™

CHAPTER

2**System setup**

This chapter gives hardware and system software installation information. Sections include:

- A quick tour of the Zivo Smart Terminal™
- Installation procedures
- Running the BIOS setup program
- Installing system software
- Installing drivers

2.1 A quick tour of the Zivo

Before you set up the Zivo, take a moment to become familiar with the locations and functions of the controls, drives, connections and ports, which are illustrated in the figures below.

When you place the Zivo upright on the desktop, its front panel appears as shown in Figure 2.1.



Figure 2.1: Front View of the Zivo Smart Terminal™

Membrane which contains functions for Volume Up/Down, Phone, Menu, Power, Information, TV, and Channel Up/Down.

When you look at the left side of the Zivo, you will see the Handset fitted to one of the Zivo's docking ports.



Figure 2.2: Left side view of the Zivo Smart Terminal™

On the rear of the Zivo you will find the two removable access doors located left and right of the terminal. The right-hand cover provides access to the system DDR memory and a mini PCIe slot, and the left-hand cover provides access to the HDD as shown in Figure 2.3.



Figure 2.3: Rear view of the Zivo Smart Terminal™

There are two I/O areas in the Zivo Smart Terminal™; one is at the back and the other one is at the bottom. Figure 2.4 indicates the various ports of these two areas.

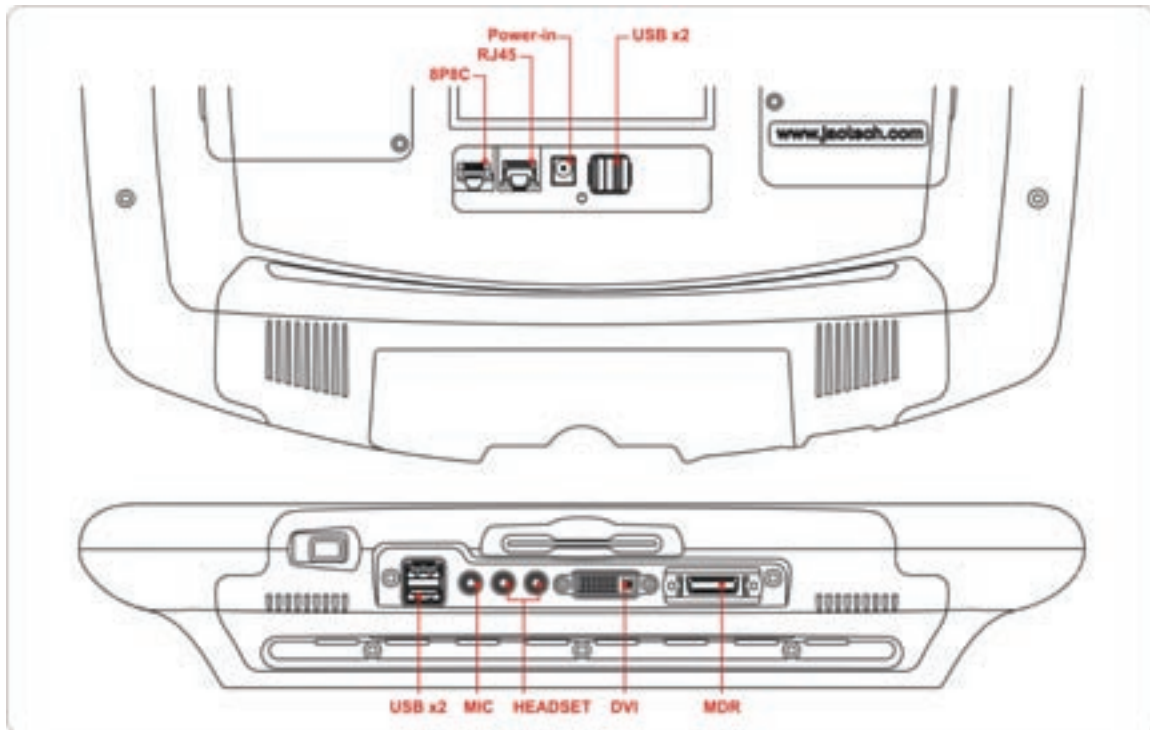


Figure 2.4: I/O Ports of the Zivo Smart Terminal™

Back I/O area

1. Coaxial TV Antenna/Cable Connector (optional);
2. USB Connector (2x);
3. Power Connector;
4. RJ 45 Shielded Gigabit Ethernet Connector;
5. 8P8C+Fin Service Call Connector.

Bottom I/O area

1. 26-Way MDR Connector (for optional remote control or a Service Call device);
2. DVI-I Connector;
3. Headset Jack (2x);
4. Microphone Jack;
5. USB Connector (2x).

2.2 Installation procedures

2.2.1 Connecting the power cord

Always handle the power cord by holding the plug end only. Follow these steps:

1. Connect the male end of the power supply DIN cable to the DC inlet of the Zivo Smart Terminal™. (See Figure 2.5)
2. Connect the male plug of the power supply to an electrical outlet.



Figure 2.5: Connecting the power cord

2.2.2 Connecting USB keyboard and mouse

Connect the mouse and keyboard to the USB ports located on the bottom cover of the Zivo Smart Terminal™. (See Figure 2.6)



Figure 2.6: Connecting the mouse and keyboard

2.2.3 Switching on the power

Switch on the Zivo Smart Terminal™ via the power switch on the front cover. (See Figure 2.7)



Figure 2.7: Switching on the power

2.3 Running the BIOS setup program

Your Zivo is likely to have been properly set up and configured by your dealer prior to delivery. If you still find it necessary to use the BIOS (Basic Input-Output System) setup program to change system configuration information please contact your JAOTECH supplier for support, or email JAOTECH at: techsupport@jaotech.com.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

2.4 Installing system software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the Zivo Smart Terminal™. If required, insert your operating system's installation or setup disc into a portable optical drive and plug into one of the Zivo USB ports.

Note: Some distributors and system integrators may have already pre-installed system software prior to shipment of your Smart Terminal™.

If you are presented with a setup/installation screen then carefully follow the instructions. The setup program will guide you through preparation of your hard drive, and installation of the operating system.

2.5 Installing the drivers

After installing the system software, you will be able to install the necessary drivers. All the Zivo drivers and updates can be obtained from JAOTECH.

Note: The drivers and utilities used for the Zivo Smart Terminal™ are subject to change without notice. If in doubt, check with your local JAOTECH office or contact our application engineers for the latest information regarding drivers and utilities.

CHAPTER

3**Graphic chipset setup**

This chapter gives details of graphics chipset setup. Sections include:

- Introduction
- Installation of graphic driver
- Further information

3.1 Introduction

The Zivo has an onboard VGA interface. The specifications and features are described as follows:

3.1.1 Chipset

The Zivo uses Mobile Intel® 945GSE chipset for its graphic controller which enables excellent graphics performance and low power consumption.

3.1.2 Display memory

Intel DVMT 3.0 Supports up to 224MB shared video memory.

3.1.3 LVDS transmitter

The Zivo uses a Chrontel CH7308/7307 for driving its LCD panel. The controller supports 18-bit/24-bit single or dual channel LCD panels.

3.1.4 Display types

CRT+LVDS simultaneous display with single, clone or extended display configuration.

3.2 Installation for Windows

For windows installations, please refer to your installation instructions and install via a portable optical drive connected through one of the Zivo USB ports.

3.3 Further information

For further information about the Zivo Smart Terminal™, including driver updates, troubleshooting guides and FAQs, please contact your local JAOTECH office or reseller.

CHAPTER

4

Audio interface

This chapter gives details of audio interface setup. Sections include:

- Introduction
- Audio system
- Installation of audio driver
- Further information

4.1 Introduction

The Zivo onboard audio interface is a high-performance 7.1+2 Channel High Definition Audio Codec providing 10 DAC channels that simultaneously support 7.1 sound playback, plus 2 channels of independent stereo sound output (multiple streaming). The codec integrates 2 stereo ADCs that can support a stereo microphone, and feature Acoustic Echo Cancellation (AEC), Beam Forming (BF), and Noise Suppression (NS) technology.

4.2 Audio system

The Zivo Smart Terminal™ features a VoIP handset, internal speakers, and three 3.5mm audio jacks for external microphone and speakers.

The main features of the audio system are:

- Compatible with the Intel High Definition Audio standard
- One mono microphone input for the VoIP handset
- One stereo microphone input for internal microphones
- One mono speaker output for the VoIP handset
- One stereo speaker output for internal speakers
- Each input and output is controllable through GPIO
- Two 3.5mm audio jacks with jack sensing capability for external speakers
- One 3.5mm microphone jack with jack sensing capability for external microphone

4.3 Installation of Audio driver

Before installing the audio driver, please take note of the procedures detailed below. You must know which operating system you are using in your Zivo, and then refer to the corresponding installation flow chart. Just follow the steps in the flow chart. You can quickly and successfully complete the installation, even if you are not familiar with instructions for Windows.

Important: It is important that you follow the flow chart instructions and instructions on the screen.

4.3.1 Installation for Windows 2000/XP

1. Click the 'Start' button in the task bar, click 'Run' and then select 'ininst_autol.exe' from the drive directory 'D:\Audio\' where the driver files are stored. The Install dialog will appear.
2. Click 'Next' to continue.

3. When the 'Setup Complete' message appears click 'Finish' to restart your computer.

4.4 Further information

For further information about the Audio interface installation in your Zivo including driver updates, troubleshooting guides and FAQs please contact your local JAOTECH office or reseller.

CHAPTER

5**Touch screen interface**

This chapter gives details of touch screen interface setup. Sections include:

- Introduction
- Installation of Touch Screen Drivers
- Further Information

5.1 Introduction**5.1.1 General information**

The Zivo touch screen incorporates advanced second-generation 5-wire resistive technology which allows 85% light transmission. The resistive touch screen has an antiglare surface and new improved scratch-resistant features and is manufactured from UL-recognized components. When properly installed, the touch screen's ball impact resistance meets the UL 1950 standard. Its fire resistance meets the UL-746C, 19 mm (0.75") flame test standard. The Zivo Smart Terminal™ which incorporates touch screen, controller, and cable has been approved to FCC Class A and Class B standards.

5.1.2 General specifications

Please refer to Chapter 1, Section 1.2 of this manual.

5.1.3 Environmental specifications

- Temperature:
 - Operating temperature -0 ~ 40°C
 - Storage temperature -20 ~ 60°C
- Relative humidity:
 - Operating 90 RH at 35°C
 - Storage 90 RH at 35°C for 240 hours, non-condensing
- Chemical resistance:

The active area of the touch screen is resistant to the following chemicals when exposed for a period of one hour at a temperature of 21°C (71°F):

 - Isopropyl alcohol
 - Ammonia-based glass cleaners
 - Turpentine
 - Mineral spirits
 - Foods and beverages

In environments where specific chemicals or cleaning agents are used, please contact JAOTECH.

5.2 Installation of Touch screen drivers

To facilitate installation of the touch screen driver, you should read the instructions in this section carefully before you attempt installation.

5.2.1 Installation for Windows XP

Click the 'Start' button in the task bar, click 'Run' and then select the Zivo Touch Screen driver from the driver disk. The Install dialog will appear.

Important: It is important that you follow the flow chart instructions and instructions on the screen.

5.3 Further Information

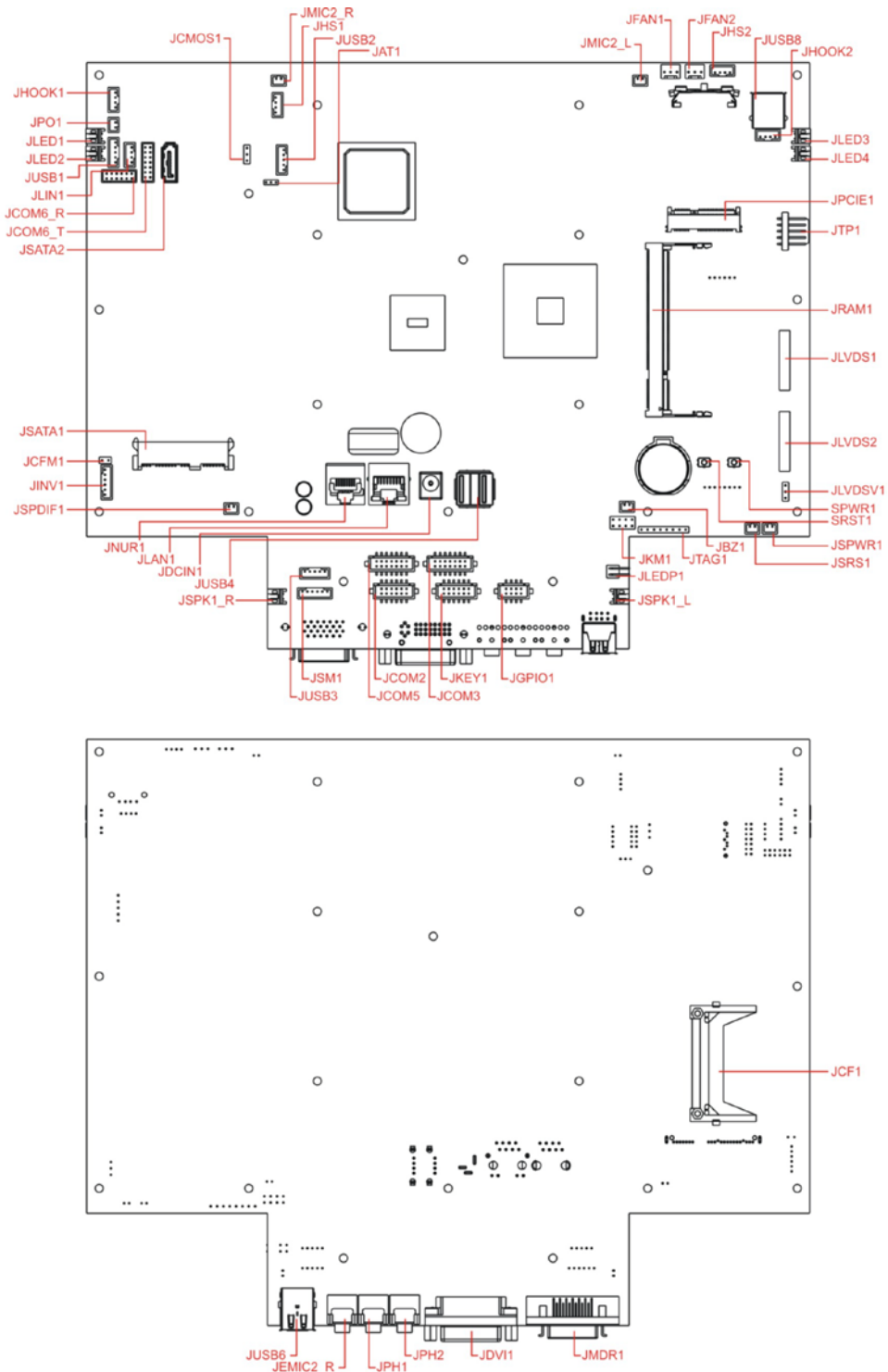
For further information about the touch screen installation in your Zivo Smart Terminal™, including driver updates, troubleshooting guides and FAQs, please contact your local JAOTECH office or reseller.

APPENDIX

A

Motherboard layout

A.1 Atom with Intel 945GSE



APPENDIX

B

Jumper Setting and Connectors

B.1 Jumper Setting

LVDS Voltage Selector (JLVDSVx)

Pin	1-2	2-3
Voltage	5V	3.3V (default)

AT/ATX Power Mode Selector (JATx)

Pin	1-2	2-3
Mode	AT	ATX

CMOS Clear Jumper (JCMOSx)

Pin	1-2	2-3
Mode	Protected (default)	Clear

Handset 2 Mode Selector

Pin	1-5, 2-6, 3-7, 4-8	5-9, 6-10, 7-11, 8-12
Mode	VOIP	PSTN

Compact Flash Master/Slave Selector (JCFMx)

Pin	Close	Open
Mode	Master	Slave

B.2 Connectors

USB Headers (JUSBx)

5-pin JST PH series connector, 2.0mm pitch.

Pin	Signal
1	VCC
2	D-
3	D+
4	GND
5	SHIELD

SATA Disk Connectors (JSATAx)

1 x 2.5" SATA disk connector with power, 1 x SATA data connector.

Compact Flash Socket (JCFx)

Ethernet Connector (JLANx)

Shielded RJ-45 connector

Power Input Connector (JPWRx)

19V DC power input jack

Serial Port Headers (JCOMx)

12 and 14 pin Hirose DF11 series connector, 2.0mm pitch.

	Signal	Purpose
COM1	N.A.	N.A.
COM2	RS-232	IR/Serial Port
COM3	TTL	Barcode Scanner, etc.
COM4	RS-232	Remote Control, etc.
COM5	TTL	Synaptics Touch Module.
COM6	RS-232/TTL	MSR, etc.

RS-232 header			
Pin	Signal	Pin	Signal
11	+5V	12	+3.3V
9	RI	10	GND
7	RTS	8	CTS
5	GND	6	DSR
3	TxD	4	DTR
1	DCD	2	RxD

TTL (+5V)			
Pin	Signal	Pin	Signal
13	NC	14	NC
11	+5V	12	+3.3V
9	RI	10	GND
7	RTS	8	CTS
5	GND	6	DSR
3	TxD	4	DTR
1	DCD	2	RxD

COM3 Only (+5V)			
Pin	Signal	Pin	Signal
13	NC	14	NC
11	+5V	12	+3.3V
9	RI	10	BAR_SCAN
7	RTS	8	CTS
5	GND	6	DSR
3	TxD	4	DTR
1	DCD	2	RxD

LVDS LCD Connector (JLVDSx)

20-pin JAE FI-SE20P-HF connector

Pin	Signal
1	VDD
2	VDD
3	GND
4	GND
5	TX0-
6	TX0+
7	GND
8	TX1-
9	TX1+
10	GND
11	TX2-
12	TX2+
13	GND
14	TXCLK-
15	TXCLK+
16	GND
17	TX3-
18	TX3+
19	GND
20	GND

LCD Inverter Connector (JINVx)

6-pin JST PH series connector, 2.0mmpitch

Pin	Signal
1	+12V
2	GND
3	ENBKL
4	VR
5	5V
6	PWM

Note: Analog brightness control (VR) ranges between 0V (Max brightness) and 5V (Min brightness).

Front Panel Buttons Connector (JKEYx)

12-pin Hirose DF11 connector, 2.00mm pitch

Pin	Signal	Pin	Signal
11	NC	12	KEY_DET
9	KEY_VOL-	10	GND
7	KEY_PHONE	8	KEY_VOL+
5	KEY_POWER	6	KEY_TV
3	KEY_MENU	4	KEY_INFO
1	KEY_CH+	2	KEY_CH-

GPIO Connector (JGPIOx)

8-pin Hirose DF11 connector, 2.0mm pitch.

Pin	Signal	Pin	Signal
7	GPI4	8	GND
5	GPI3	6	NC
3	GPI2	4	GPO2
1	GPI1	2	GPO1

DVI Connector (JDVIx)

Standard DVI-I connector

Remote Control Connector (JMDRx)

26-pin MDR connector with multiple signals

Pin	Signal	Pin	Signal
1	USBVCC	14	USBD-
2	USBD+	15	USBGND
3	RxD	16	TxD
4	RI	17	GND
5	DTR	18	DSR
6	SERVICE1	19	SERVICE2
7	SERVICE3	20	SERVICE4
8	SERVICE5	21	SERVICE6
9	SERVICE7	22	SERVICE8
10	MIC_IN+	23	PH_OUT
11	PHONE_GND	24	MIC_IN-
12	REM_HANDSET_HOOK	25	+5V
13	REM_HANDSET_GPI1	26	REM_HANDSET_GPO1

System Power and Reset Buttons (SRST, SPWR)

Two internal tact switches

Service Call Connector (JNURx)

8P8C connector, unshielded.

Pin	Signal
1	SERVICE1
2	SERVICE2
3	SERVICE3
4	SERVICE4
5	SERVICE5
6	SERVICE6
7	SERVICE7
8	SERVICE8

LED Connectors (JLEDx)

2-pin JST PH connector, 2.0mm pitch.

Pin	Signal
1	+5V
2	LED

Handset Hook Sensor Connectors (JHOOKx)

4-pin JST PH series connector, 2.0mm pitch.

Pin	Signal
1	+5V
2	GND
3	GND
4	ON_HOOK

Handset Connectors (JHSx)

4-pin JST PH series connector, 2.0mm pitch.

Left Connector	
Pin	Signal
1	MIC_IN+
2	PH_OUT
3	PHONE_GND
4	MIC_IN-

Auxiliary Power Connector (JPOx)

2-pin JST PH series connector, 2.0mm pitch.

Pin	Signal
1	+12V
2	GND

Keyboard and PS/2 Mouse Connector (JKMx)

4P*2(W/O-Pin8) 2.54mm 180D(M) Pin Header

Signal	Pin	Pin	Signal
KDAT	1	2	KCLK
GND	3	4	+5V
MDAT	5	6	MCLK
NC	7	X	Null

Power and Hard Disk Activity LED Connectors (JLEDPx - power, JLEDHx - hard disk)

2x2 pin header with 2.54mm pitch

Pin	Signal
1	PWR-
2	PWR+
3	HDD-
4	HDD+

Touch Panel Connector (JTPx)

Mini Base/Dip 90D 5-pin 1-side

Pin	Signal
1	UL
2	UR
3	Probe
4	LR
5	LL

Signal	Signal Description
UR, UL	5-wire touch panel signal of upper right/left side
PROBE	5-wire touch panel signal of centre
LR, LL	5-wire touch panel signal of bottom right/left side

System Fan and CPU Fan Connectors (JFANx)

3 x 1 wafer, 2.54mm pitch

Pin	Signal
1	GND
2	+12V
3	TAC

Line In Connector (JLINx)

4-pin JST PH series connector, 2.0mm pitch

Pin	Signal
1	LINE_IN R
2	AUD_GND
3	AUD_GND
4	LINE_IN L

Buzzer Connector (JBZx)

2-pin JST PH series connector, 2.0mm pitch

Pin	Signal
1	BUZZER-
2	BUZZER+

I²C/SMBus based Slave Device Connector from the Southbridge (JSMx)

6-pin JST PH series connector, 2.0mm pitch

Pin	Signal
1	SDA (I ² C Data)
2	SCL (I ² C Clock)
3	ATTN
4	5V
5	3.3V
6	GND

1 PCI Express Mini Card Slot (JPCIEx)

Internal Microphones Connector (JMIC2_L & JMIC2_R)

2-pin JST PH series connector, 2.0mm pitch.

Left Channel		Right Channel	
Pin	Signal	Pin	Signal
1	MIC2_L	1	MIC2_R
2	AGND	2	AGND

Internal Stereo Speaker Connectors (JSPK1_L & JSPK1_R)

2-pin JST PH series connector, 2.0mm pitch.

Left Channel		Right Channel	
Pin	Signal	Pin	Signal
1	SPK_OUT_L-	1	SPK_OUT_R-
2	SPK_OUT_L+	2	SPK_OUT_R+

Headphone and Microphone Connectors (JHPx & JEMIC2_R)

3.5mm audio jacks with jack-sensing capability.

Connector	Function	Jack Color
JHP1	Headphone Output	Green
JHP2	Headphone Output	Green
JEMIC2_R	Microphone Input	Pink

SPDIF Connector (JSPDIFx)

2-pin JST PH series connector, 2.0mm pitch.

Pin	Signal
1	SPDIF
2	DGND

APPENDIX

C**Hardware installation**

This appendix describes hardware installation. Sections include:

- Overview of Hardware installation and upgrading
- Disassembling the Smart Terminal™
- Installing the 2.5" Hard Disk Drive (HDD)
- Installing the Central Processing Unit (CPU)

C.1 Overview of Hardware installation and upgrading

The Zivo Smart Terminal™ consists of an embedded computer that is housed in a plastic rear panel and a metal shielding case. The HDD, DDR2 RAM and similar components are all readily accessible by removing the covers on the rear plastic panel. Any maintenance or hardware upgrades can be easily completed after removing the rear covers at the back to the terminal.

Note: *The colour LCD display installed in the Zivo Smart Terminal™ is may contain a few defective pixels which do not always illuminate. With current LCD technology, it is almost impossible to guarantee zero defective pixels.*

Warning: *Do not remove the plastic rear covers until you have verified that no power is flowing through the Smart Terminal™. Power must be switched off and the power cord must be unplugged.*

C.2 Disassembling the Zivo Smart Terminal™

The following is the standard procedure for disassembling the Zivo Smart Terminal™ to upgrade your system. All procedures are illustrated in Figure C.1.



Figure C.1: Disassembling the plastic rear cover of the Zivo
Unscrew the screws that secure the plastic rear covers, and then remove the covers

C.3 Installing the 2.5" Hard Disk Drive (HDD)

You can attach one SATA Hard Disk Drive to the Zivo Smart Terminal™. The following are instructions for installation:

1. Detach the HDD bracket by unscrewing the 2 M3 screws on the top of the HDD bracket.
2. Place the HDD inside the HDD bracket and tighten 4 screws from both sides of the HDD bracket.
3. Slide the HDD and bracket into the on-board Sata Connector (JSATA1).
4. Fix the HDD and bracket to the board with the 2 M3 screws.

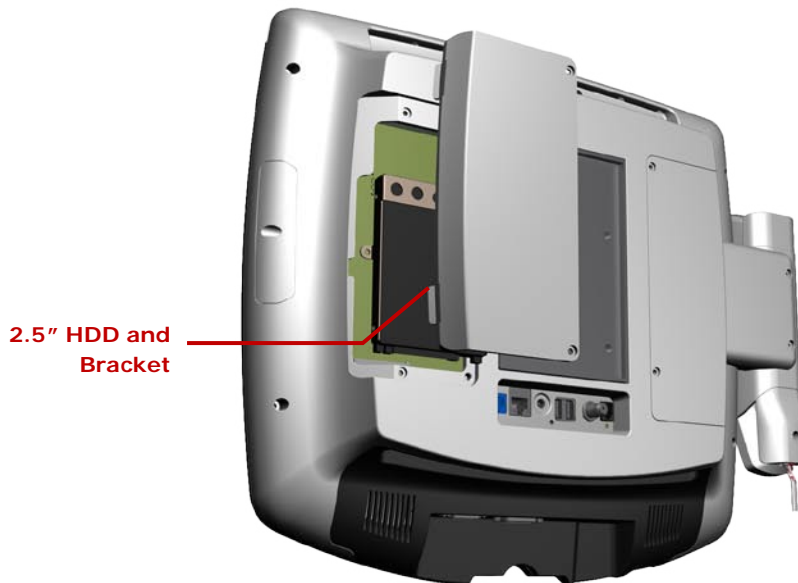


Figure C.2: Installing the primary 2.5" HDD

C.4 Installing the Central Processing Unit (CPU)

The Zivo Smart Terminal's central processing unit (CPU) cannot be upgraded.

Warning: *The CPU may be damaged if operated without a heatsink.*

Caution: *Always disconnect the power cord from the terminal before maintenance or upgrade work. Do not connect while the power is on as sensitive electronic components can be damaged by a power surge. Only experienced electronics personnel should work on the Smart Terminal™.*

APPENDIX

D**VESA mounting**

This appendix describes VESA mounting.

The Zivo Smart Terminal™ also provides standard VESA mounting to help system integrators conveniently integrate the terminal into their system. It is recommended that customers use mounting brackets provided by JAOtech to ensure safe and reliable fixing.

VESA mount installation should be carried out by a professional technician. Please contact the service technician or your JAOtech reseller if you require this service.

Follow the instructions below to mount the Zivo Smart Terminal™ to the JAOtech wall bracket:

1. The Zivo wall bracket is comprised of two parts: one 'back bracket', and one 'mounting bracket'. (See Figure D.1)
2. First attach the back bracket to the VESA mount at the back of the Zivo, securing it in place with the four M6 Phillips-head screws provided.
3. Attach the mounting bracket to the wall or another flat surface. The back bracket slides vertically from the top into the mounting bracket. It can be secured to the mounting bracket by screwing the four M3 Phillips-head screws provided through the corresponding holes at the tops of the mounting bracket.

Warning: To avoid injury be sure to secure the screws of the wall bracket tightly.

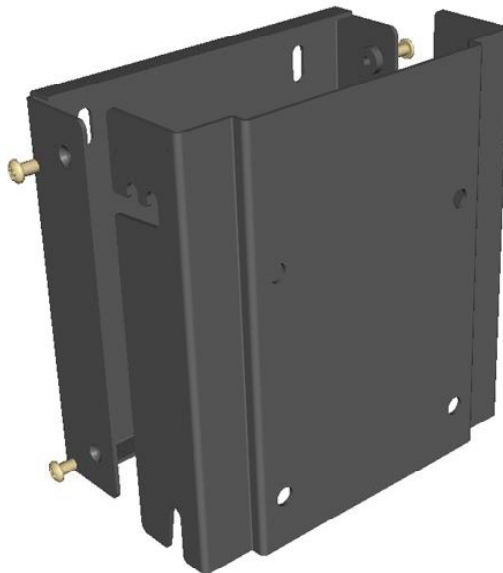


Figure D.1: JAOtech wall bracket

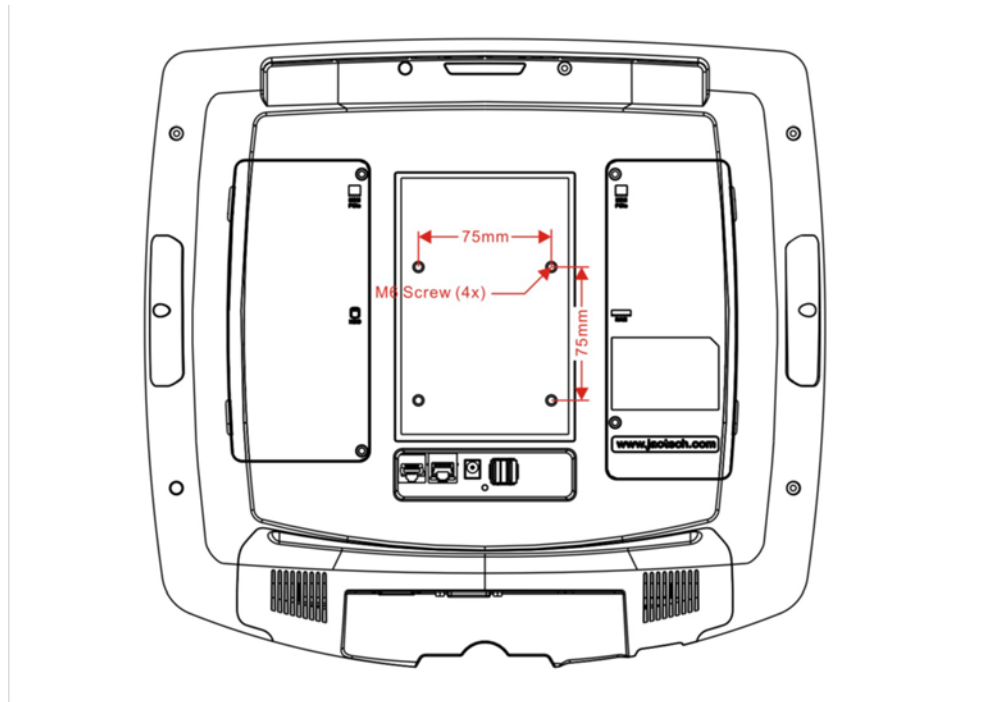


Figure D.2: VESA mounting dimension diagram (75 x 75 mm)

APPENDIX

E**DESK STAND**

This appendix describes ARCOS5100 Desk Stand.

The Zivo Smart Terminal™ can also be provided with a Desk Stand to help system integrators conveniently integrate the terminal into their system. It is recommended that customers use Desk Stands provided by JAOTECH for desk top mounting to ensure safe and reliable use of the terminal.

E.1 Installing the Smart Terminal to the Desk Stand

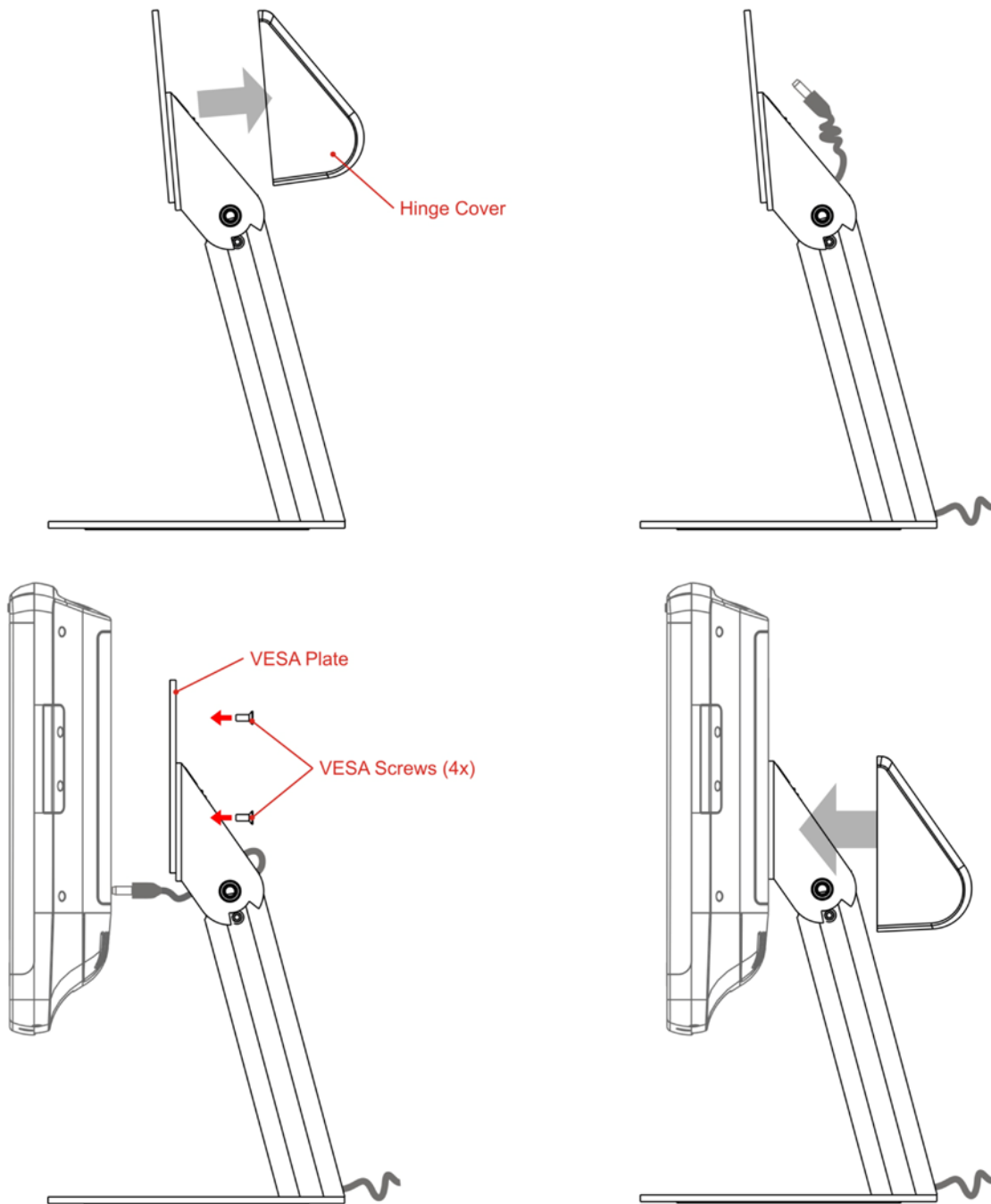
Desk Stand installation should be carried out by a professional technician. Please contact the service technician or your JAOTECH reseller if you require this service.

Follow the instructions below to mount the Zivo Smart Terminal™ to the ARCOS 5100 Desk Stand:

1. Remove the hinge cover from Stand Arm by unscrewing the 2 M3 screws.
2. Tread the power cable through Stand Arm from the bottom of Foot.
3. Fix the terminal to the VESA plate with four M6x10 VESA Screws.
4. Plug the power cable and all other cables necessary into the terminal
5. Fix the hinge cover to Stand Arm with the 2 M3 screws.

E.2 Safety Instructions

1. The Arcos 5100 Desk Stand is especially designed to support and position the JAOTECH Smart Terminal range only.
2. Before beginning to assemble / disassemble the terminal, be sure the terminal is turned off and all cables are disconnected.
3. The Arcos 5100 Desk Stand should only be used on stable, horizontal, flat surfaces that exceed the surface area of the Desk Stand Foot in every direction.



Warning: To avoid injury be sure to secure all screws of the Desk Stand tightly.

Figure E.1: ARCOS 5100 Desk Stand

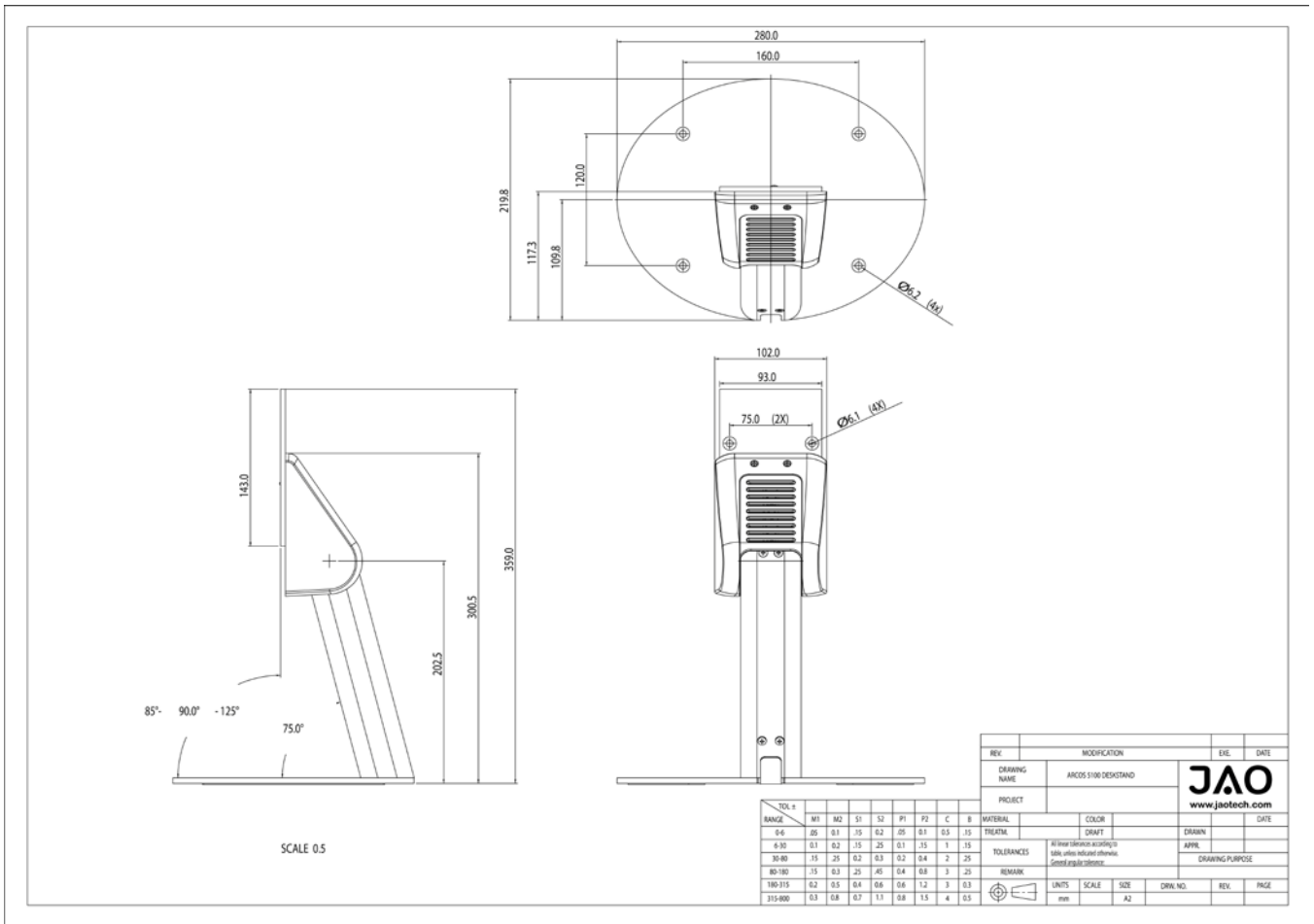


Figure E.2: ARCOS 5100 Main Dimensions

Further information

If you require any more information regarding this product or any others in the JAOTECH range then please visit our website at www.jaotech.com, email us at sales@jaotech.com, or contact our UK head office using the numbers below:

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